



United States
Department of
Agriculture

**Animal and
Plant Health
Inspection
Service**



FY 2002 Accomplishments Under the Government Performance and Results Act



Overview

The Government Performance and Results Act (GPRA), passed in 1993 by Congress, requires Federal agencies to develop a strategic plan identifying the vision and mission of the agency along with general goals and objectives. Federal agencies must also prepare an annual performance plan identifying specific programmatic goals and quantitative targets that support the strategic plan, and an annual performance report of the agency's accomplishments that is distributed to Congress. Senators and Representatives review this information when considering Federal budget allocations and other resource requests. This information is also helpful to program managers who monitor and track data, refine program policies, and work to achieve greater efficiency.

Wildlife Services' Mission

Wildlife Services (WS) is the program within APHIS that is dedicated to preventing or reducing conflicts between people and wildlife. Every day State agencies, county and municipal governments, private homeowners, farmers, ranchers, and other property owners rely on WS' expertise to help prevent, minimize, or manage wildlife damage. This damage can impact agriculture, property, natural resources, and even threaten public health and safety. Research conducted at WS' National Wildlife Research Center (NWRC) provides WS field personnel with innovative and effective tools to manage wildlife damage in a professional and responsible way.

With this support, WS biologists handle a broad spectrum of issues for their customers and stakeholders. These activities include: protecting livestock and threatened and endangered species from predation by other wildlife, reducing the risk of wildlife collisions with airplanes, removing beaver dams that are flooding nearby roads and bridges, and monitoring for and reducing the threat of various wildlife-borne diseases that can spread to domestic livestock or even people.

Wildlife Services' Goals Under the GPRA

The GPRA has provided WS with an opportunity to pay greater attention to the positive impacts of its damage management activities. WS sets targets and measures itself on several different criteria:



1. The ability to increase air passenger safety by enhancing or improving the conditions around the Airport Operations Area (AOA) where wildlife and aircraft could collide.
2. The ability to protect public health and safety by reducing the prevalence of canine rabies in portions of Texas where WS provides oral vaccination of wild canines.
3. The ability to establish and maintain the integrity of a vaccination barrier for raccoon rabies in the northeastern United States.
4. The ability to protect property, natural resources, and crops from beaver damage.
5. The ability to protect threatened or endangered species.
6. The ability to prevent the establishment of the brown tree snake on the Hawaiian Islands.
7. The ability to protect valuable aquaculture resources from predation by cormorants and other fish-eating birds.
8. The ability to improve or develop new wildlife damage management methods and tools for use in the field.

Program Results

Airport Work

Birds and other wildlife can pose a serious problem for planes taking off and landing. At many airports in the United States, bird strikes have the potential to take down a major jetliner, threatening the lives of passengers and crew members. For example, in September 1995, the U.S. Air Force lost 24 airmen and a \$190 million aircraft

because of a bird strike. Experts estimate that wildlife strikes cost the U.S. civil aviation industry more than \$470 million annually, and the number of reported strikes in fiscal year (FY) 2001 was approximately 5,600. Much of this is due to significant increases in populations of large-bird species in North America over the past 20 years. Many of these species are known to frequent airport environments. In addition to birds, other wildlife such as deer and coyotes also pose serious threats to aircraft and people when they forage near or cross over airport runways.

In FY 2002, WS provided wildlife hazard management assistance to 528 airports and military air bases nationwide. This was a 33 percent increase over the number of airports assisted in FY 2001, and a 174 percent increase over the 193 airports WS assisted in 1998.

In 82 percent of these cases, WS personnel were able to reduce, suppress, or prevent wildlife hazards. In some cases, direct work with the airports involved population management techniques such as harassment or wildlife removal. In other cases, technical assistance was provided to airports following an initial assessment or consultation by WS personnel. WS also provides critical training to airport personnel on how to identify and manage certain wildlife hazards on airport grounds. This training is expected to remain an integral part of WS' airport work.

APHIS provided full-time assistance at a number of civilian airports including:

- Chicago's O'Hare Airport in Illinois;
- Boston's Logan International in Massachusetts;
- Cincinnati-Northern Kentucky;
- Dulles International in Virginia;
- Atlantic City International in New Jersey;
- Ronald Reagan National in Washington, D.C.;
- Sacramento and Los Angeles International Airports in California; and Phoenix Sky Harbor International in Arizona;

APHIS also has full-time biologists stationed at various military air bases including Whiteman Air Force Base (AFB) in Missouri, Homestead Air Reserve Base in Florida, Langley AFB in Virginia, Altus AFB in Oklahoma, Luke AFB in Arizona, and Cherry Point Marine Corps Air Station and Seymour Johnson AFB in North Carolina. Altus AFB received the U.S. Air Force "Best Practices" award in 2002 for the "outstanding wildlife damage management program at the base," a program designed and implemented by WS biologists.

Canine Rabies in Texas

Rabies is almost always fatal in wildlife. Although human exposure to rabies has been greatly reduced through effective education efforts and pet vaccinations, people will die if left untreated. Fortunately when human exposure does occur, timely treatment is effective in preventing the disease. Even with this effective treatment, rabies remains a significant public health threat and wildlife management problem that results in great social trauma and significant annual costs.



Canine rabies became an issue in south Texas in the early 1990s when a variant strain in domestic dogs began "spilling over" into canine wildlife populations, particularly free-ranging coyotes. In 1994, 166 cases of canine rabies were reported to State or county health departments in south Texas. In 1995, the State, in cooperation with WS, began a successful oral rabies vaccination program (ORV) for canine-variant rabies. Over the next several years, the program and the vaccination zone grew, reaching its maximum size in 1998. At that time, the ORV zone covered an area from just south of San Antonio to Del Rio in the west and Corpus Christi in the east. With this zone in place, canine-rabies cases in south Texas dropped to just 3 to 8 per year. In 2000 the program reached a milestone, reporting no cases of canine-variant rabies in the vaccination zone. To protect against subsequent canine-rabies outbreaks, a maintenance ORV zone was created in FY 2000, covering 11,000 square miles along the Rio Grande, east of Del Rio. The maintenance barrier currently covers about 40 percent of the 1998 ORV zone area.

The maintenance barrier in FY 2002 was configured the same as in FY 2000 and approximately 750,000 vaccine-laden baits were distributed over the 11,000 square-mile area. In cooperation with the Texas Department of Health, WS helps fund and manage efforts to contain a gray-fox variant of rabies in west central Texas. In 2002, WS distributed 2 million ORV baits over 18,000 square miles to contain a unique strain of gray-fox rabies. In support of this effort, WS' National Wildlife Research Center has initiated key research projects to address bait, bait density, vaccine, and rabies reservoir population issues.

Raccoon Rabies in the Northeast

A raccoon variant of rabies has appeared in the northeastern United States in greater numbers over the last several years. Currently, several universities and State and Federal agencies, including WS, are concentrating their efforts on controlling raccoon rabies in the east. In FY 2002, Virginia, Tennessee, and New Hampshire were added to the list of cooperating States, which includes Vermont, New York, Pennsylvania, Ohio, and West Virginia. These states are all dedicated to preventing this unique variant of the rabies virus from spreading into uninfected areas in the Midwest and further into Ontario and Quebec, our international partners to the north. The current ORV strategy involves distributing fish-scented baits, which contain the oral rabies vaccine and effectively immunize raccoons in defined barriers. These barriers



are created in strategic locations along the leading edge of the current distribution of raccoon rabies, as determined by surveillance efforts. Like canine rabies, raccoon rabies is fatal if untreated. Its social costs are also high and include anxiety and psychological trauma for those people who live in areas affected by the raccoon rabies.

Several wildlife species account for more than 90 percent of all reported animal rabies cases in the United States each year with raccoon rabies accounting for at least 50 percent of all wildlife rabies. In the absence of an ORV program, officials estimate the annual costs associated with raccoon rabies would range between \$300 and 450 million annually. Primary cooperators and stakeholders include the State departments of health, agriculture, and wildlife; the Centers for Disease Control and Prevention (CDC); Cornell University, the University of Georgia, Ohio State University, and Tufts University. The Ontario Ministry of Natural Resources and the Province of Quebec are involved internationally.

In FY 2002, WS personnel assisted cooperators by distributing approximately 3 million ORV baits over a 25,000 square-mile area in these participating states. The majority of these baits were distributed by low-flying planes. To date, these oral vaccination efforts show good promise for containing raccoon rabies, but require that WS, CDC, and participating States commit sufficient resources to enhance surveillance efforts and project effectiveness evaluations for analyses. In addition to this major effort, WS participated in several smaller raccoon ORV and rabies surveillance projects in FY 2002 in Florida, Alabama, Maryland, and Massachusetts.

Beaver Damage

Beaver throughout North America cause significant damage to public roads, highways, forests and agricultural resources, and other property. Experts estimate that the damage costs millions of dollars every year. In fact, many experts believe that the costs associated with beaver damage are greater than that caused by any other wildlife species in the United States. The economic damage caused by beavers in the southeastern United States alone is estimated to have exceeded \$4 billion over a 40 year period.

For years, WS has collected data on beaver damage reported by private individuals and State agencies. In 1999, however, the program began collecting data on the damage that was prevented by WS' beaver damage management efforts. In FY 2002, 13 eastern States sought to quantify how much additional damage this

work prevented. The resources protected include bridges, roads, water control structures, timber, crops, and even other aquatic species. All 13 states used very conservative models to calculate the value of additional damage prevented by their work. In total, WS specialists estimated they prevented an additional \$23.7 million in beaver damage. If less conservative models had been used, these figures could have been two to three times higher. The cost-benefit ratio of WS' beaver assistance was 1:6.01; for every \$1 spent in managing beaver damage by WS, \$6.01 in resources was saved.

Beaver damage management work is also performed in the western United States, however, estimates of the damage prevented by WS' involvement is not currently available for these States. It is reasonable, however, to assume that the western WS program is also making significant contributions in limiting or preventing additional beaver damage to vital resources.

Threatened and Endangered Species

WS has played a significant role in protecting threatened and endangered species across the country. The program's expertise has resulted in many organizations, including other Federal, State, and local governments, turning to WS to minimize the impacts of predation on threatened or endangered species. This direct protection of threatened and endangered species is an approach that is especially useful on islands or other isolated ecosystems. One such example is the loggerhead or green sea turtle. Protecting the turtles on nesting beaches is undoubtedly having a positive impact on local populations.

A second type of work in this area is categorized as recovery enhancement work. This work is aimed at protecting threatened and endangered species that cause direct damage to crops, livestock, and private property. The Mexican wolf is a good example of this recovery enhancement work. Without WS' involvement in this project, private landowners would be less accepting of wolf reintroduction efforts.

WS investigates instances of possible wolf predation on livestock in the reintroduction areas. If the investigation shows the attack was likely caused by a Mexican wolf, WS removes the animal from the area. Removing these wolves resolves the conflict and creates a greater level of tolerance for the wolves by farmers and ranchers. This, in turn, fosters support for the recovery efforts.

In FY 2002, 157 threatened or endangered species were assisted by WS' efforts on 98 projects. These projects were conducted in 29 states, Puerto Rico, Guam, the U.S. Virgin Islands, and Cuba. In 96 percent of the projects (94 of 98), local threatened and endangered species populations either increased or remained stable. While WS acknowledges that the protection and recovery of listed species requires input from a wide range of contributors, WS is proud of its contributions in protecting many of these vital wildlife resources.

Brown Tree Snake

Since 1993 WS has conducted a brown tree snake (BTS) damage management program on Guam in cooperation with the Department of Defense (DoD), the Department of Interior (DOI), and the governments of Hawaii and Guam. The BTS has caused tremendous

damage to the island since its accidental introduction after World War II.

In addition to being an agricultural pest that threatens poultry and other small domesticated animals, the BTS also threatens Guam's power infrastructure, causing frequent power outages and damage to electrical equipment. Most significant, however, is the impact this invasive species has had on public health and safety, tourism, and natural resources. The BTS has decimated 9 of 12 species of native forest birds.

As important as it is to control the BTS on Guam, it is equally important to prevent the snakes' spread from Guam to other Pacific Islands. To achieve this goal, WS conducts BTS interdiction at Guam's commercial and military exit ports.

Overall, WS' efforts are critical in managing numbers of the BTS on Guam. WS has trained 14 Jack Russell terriers to detect the snakes in outbound cargo, and wildlife specialists use traps, barriers, night-time fence-line searches with spotlights, habitat modification, and prey-based removal to manage snake populations. WS has also been working with the U.S. Air Force and the U.S. Navy to protect endangered Mariana crow and Mariana swiftlets. Since the inception of this work, swiftlets have re-colonized an abandoned nesting cave, and crow eggs have successfully hatched on Guam for the first time in more than 15 years.

The program's interdiction efforts at exit ports have proven to be quite successful as well. In 2002, approximately 6,500 BTS were removed from outbound cargo, and there were no BTS sightings on the island of Hawaii. This is extremely important. The BTS is an opportunistic feeder and consumes a highly varied diet. It can also survive in close proximity to human development. If the BTS were to become established on Hawaii, experts estimate it could cause nearly \$300 million in damage each year. The annual expenditures made by the Federal government and others to prevent the spread of BTS from Guam provide long-term benefits to the Pacific region.

Aquaculture

Aquaculture is a significant commercial venture in the southern United States. Most aquaculture in this region is associated with catfish production, and is heavily concentrated in Mississippi (70 percent of domestic production), Arkansas, Alabama, and Louisiana. Together, these 4 States account for 90 percent of U.S. commercial aquaculture production. The catfish industry has shown significant growth in the last 40 years. In fact, acreage under catfish production increased almost 10 times between the mid-1970s and the mid-1980s.

Over the last 30 years, the double-crested cormorant population has grown significantly as well. With the establishment of DDT restrictions in the mid-1970s, cormorant breeding populations began to expand across the eastern United States, leading to increasing numbers of birds wintering in the Lower Mississippi Valley area. This scenario creates an obvious conflict between fish-eating birds like the cormorants, and catfish producers.

WS plays a significant role in protecting aquaculture commodities from predation by the cormorants. It is estimated that cormorants consume 18-20 million catfish fingerlings each year. If catfish producers were to replace them, their replacement costs alone would be approximately \$5 million annually. Some studies have shown the actual economic loss to Mississippi catfish farmers approaches \$25 million a year.

Present cormorant management practices include both lethal and nonlethal actions. A coordinated and simultaneous harassment approach has been shown to be an effective technique to disperse cormorants from winter-roost sites. Studies indicate that roost dispersal results in an 85 percent reduction in catfish predation at nearby aquaculture facilities. In 2002, WS dispersed approximately 194,000 birds from their winter-roost sites in Mississippi, Arkansas, Alabama, and Louisiana. This represents about 65 roosts in the region, or about 65 percent of the 100 sites identified in 2002.

Tools & Methods Development

WS is responsible for providing Federal leadership to manage conflicts between people and wildlife while maintaining healthy and balanced ecosystems. Scientists at WS' NWRC conduct research and provide data for developing socially acceptable and cost-effective methods to meet this responsibility. NWRC is the only research facility in the world dedicated to resolving conflicts between people and wildlife.



Research is organized by multi-year, multi-disciplinary projects that are generally three to five years in duration. Each year, project leaders submit progress reports containing lists of studies and research highlights. Projects are reviewed at their midpoint and upon completion by panelists from NWRC, WS' field operations, stakeholders, academia, and other research organizations. The projects are evaluated for methods that demonstrate innovation and the potential to resolve various conflicts. The most notable achievement from each project is reported annually. In FY 2002, NWRC developed 18 new or improved methods, many of which focus on nonlethal and integrated pest management strategies.